AMENDMENTS TO THE CLAIMS

1.(currently amended):   ~~An inter-LAN communication~~ A SONET/SDH

transmission device connected at a node of a synchronous network of a ring configuration for

controlling inter-communication between a plurality of LAN segments ~~connected in a ring~~

~~configuration,~~ comprising:

a LAN interface including,

a LAN interface accommodation [[means]] portion for accommodating a

~~communication interface of said~~ LAN segments, [[;]]

a traffic ~~monitoring means~~ monitor for monitoring [[the]] traffic of LAN data,

which is transmitted from a node to another node of the synchronous network, [[;]]

a communication ~~control means~~ controller for ~~controlling the communication for~~

~~inter-connecting~~ forming a packet of the LAN data by adding an overhead which indicates node

numbers of a transmission source and a transmission destination to inter-connect the [[a]] LAN

~~segment~~ segments of a ~~local~~ a node and a LAN segment of another node via the synchronous

network,[[;]]

a path ~~selection means~~ selector for switching a communication path according to

[[the]] an instruction from the traffic ~~monitoring means~~ monitor,[[;]] and

a packet switch ~~control means~~ controller for switching the packeted LAN data;

a multiplex/demultiplex part for multiplexing/demultiplexing the packeted LAN data

from the LAN interface to a payload of a data frame in a logical path between a high speed

SONET/SDH interface and a low speed SONET/SDH interface; and

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a SONET/SDH interface connected to the multiplex/demultiplex part having a high speed
interfacing function for connecting SONET/SDH transmission devices.

2.(currently amended): The SONET/SDH transmission inter-LAN communication
device according to Claim 1, wherein said communication control means controller further
includes a buffer which stores data transmitted from the LAN segment, and said traffic monitor
monitoring means monitors traffic by monitoring the capacity of said buffer which stores data
transmitted from the LAN segment.

Claims 3-4. (cancelled)

5.(currently amended):   The SONET/SDH transmission inter-LAN communication
device according to Claim 1, wherein said communication control means controller adds a
sequence number for each packet at the transmission side so as to prevent a mismatch of the
arrival sequence when the communication path is different for each packet due to path switching.

6.(currently amended): The SONET/SDH transmission inter-LAN communication
device according to Claim 5, wherein said path control means controller adds a sequence number
for each packet after said added node number at the transmission side so as to prevent a
mismatch of the arrival sequence when the communication path is different for each packet due
to path switching.

7.(currently amended): The SONET/SDH transmission inter-LAN communication
device according to Claim 5, wherein said path control means controller matches the phases of

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packets by referring to said sequence numbers and deleting said sequence numbers of the added information at the receiving side.

8.(currently amended): The SONET/SDH transmission inter-LAN communication device according to Claim 1, wherein said packet switch control means further includes an address learning part, which learns information where the transmission source and transmission detection node number information which is added to a packet sent from another LAN segment, the transmission source and transmission destination address information which the LAN data has, and the communication port information which the packet switch control means controller has, are associated and stores said association information.

9.(currently amended): The SONET/SDH transmission inter-LAN communication device according to Claim 8, wherein for the node numbers of the overhead to indicate the transmission source and the transmission destination in said communication control means controller, a local node number which is preset, is added as the transmission source node number and the node number which is derived by searching and referring to said learned and stored association information on the node numbers, communication ports and addresses based on the transmission destination addresses which the LAN data bus has, is added as the transmission destination node number.

10.(currently amended): The SONET/SDH transmission inter-LAN communication device according to Claim 8, wherein said packet switch control means controller compares the local number, which is preset, and the transmission destination node number of a packet sent from another node, which is another LAN segment, based on said learned and stored association

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information of the node numbers, ports and addresses, and the transmission destination packet is received by the local node if the transmission destination node number is the same as the local node number, and a communication port is selected and the packet is transferred if the transmission destination node number is another node number.

11.(currently amended): [[An]] The inter-LAN communication system of claim 17 ~~where communication is performed connecting a plurality of LAN segments, comprising:~~

~~a network,~~

~~an inter-LAN communication device which is installed at each one of a plurality of nodes of said network, and~~

~~a LAN segment connected to said inter-LAN communication device,~~ wherein said inter-LAN communication device further comprises:

an interface which is common with the LAN segment to be connected,

~~means of~~ a traffic status monitor monitoring traffic status of LAN data from said LAN segment,

an address learning part which learns and stores data generated in one LAN segment based on said traffic status and routing information added to the LAN data from another LAN segment when the data is transferred to the other LAN segment, and

a packet switch ~~control means~~ controller for inter-connecting one LAN segment and the other LAN segment based on said learned and stored information.

12.(currently amended): The inter-LAN communication system according to Claim 11, wherein said packet switch ~~control means~~ controller in the inter-LAN communication device installed in each one of the plurality of nodes of said network further comprises two

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communication ports, and band sharing type inter-communication between the plurality of LAN segments is implemented by the cascade connection of the band (path) in a ring format.

13.(currently amended): The inter-LAN communication system according to Claim 12, wherein said packet switch ~~control means~~ controller sets a fixed band path of a Point-to-Point connection between specified nodes, so as to guarantee a minimum access band between said nodes, and the band sharing path is used as a bypass route when traffic exceeds the band of said fixed band.

14.(currently amended): The inter-LAN communication system according to Claim 12, wherein said packet switch ~~control means~~ controller always transmits the packeted LAN data for transmission to the band sharing path when only the band sharing type path is used.

15. (cancelled):

16.(currently amended): The inter-LAN communication system according to Claim 13, wherein said path ~~control means~~ controller normally sends the packeted LAN data for transmission to said fixed band path when the minimum access band guarantee type is used, and dynamically switches traffic to the band sharing path when said ~~means of monitoring~~ traffic status monitor notifies a band overflow of said fixed band path.

17.(currently amended): An inter-LAN communication system which performs inter-communication between a plurality of LAN segments connected in a ring configuration, comprising:

a synchronous network in a SONET/SDH system of a ring configuration,

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an inter-LAN communication device which is installed in each one of [[the]] a

plurality of nodes of said synchronous network, and

a LAN segment which is connected to said inter-LAN communication device,

wherein

said inter-LAN communication device further comprises:

a LAN interface accommodating [[means]] portion for accommodating a

communication interface of said LAN segment,

a traffic monitoring means monitor for monitoring traffic of LAN data,

which is transmitted from a node to another node,

a communication control means controller for controlling communication

for inter-connecting forming a packet of the LAN data by adding an overhead which indicates

node numbers of a transmission source and a transmission destination to inter-connect [[a]] LAN

[[segment]] segments of the local a node and [[the]] a LAN segment of another node via the

synchronous network.

a path selection means selector for switching a communication path

according to instructions from the traffic monitoring means monitor, and

a packet switch control means controller for switching said packeted LAN

data.

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